UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,195	11/26/2003	John F. Wirkus	GSIE 8803US	9038

1688 7590 02/22/2006

POLSTER, LIEDER, WOODRUFF & LUCCHESI
12412 POWERSCOURT DRIVE SUITE 200
ST. LOUIS, MO 63131-3615

EXAMINER	
NGUYEN, TU MINH	

ART UNIT	PAPER NUMBER
3748	

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/723,195	WIRKUS ET AL.	
	Examiner	Art Unit	
	Tu M. Nguyen	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,9-16,19,20,23-27 and 30-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *34 and 35* is/are allowed.

6)☒ Claim(s) *1-5,9-16,19,20,23-27,30-32,36 and 37* is/are rejected.

7)☒ Claim(s) *33* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Upon further evaluation, a Notice of Allowability issued on December 2, 2005 is hereby withdrawn; and a new non-final rejection is set forth below. Overall, claims 1-5, 9-16, 19, 20, 23-27, and 30-37 are pending in this application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, 9-11, 16, 19, 20, 23, 24, 30-32, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis (U.S. Patent 5,027,781).

Re claims 1, 11, 32, 36, and 37, as shown in Figures 1-5, Lewis discloses an afterburner and an exhaust gas recirculation valve system for a motor vehicle, the valve system comprising:

- an exhaust gas recirculation valve (10);

- an intake pipe (17) coupled to an intake orifice of the exhaust gas recirculation valve (10); and

- a screen (18) without a catalyst affixed to the intake pipe positioned adjacent to an exhaust gas manifold (14) and at a location upstream of the exhaust gas recirculation valve (10)

so that the screen captures particles contained in an exhaust gas which are a size large enough to obstruct the exhaust gas recirculation valve.

Lewis, however, fails to disclose that the exhaust gas stream heats the screen to a temperature sufficient to burn the captured particles; and that the screen is affixed to the intake pipe by interference fit.

Since Lewis places the screen at a location adjacent to the exhaust gas manifold, constructs the screen from high temperature material such as stainless steel and ceramic, and fails to mention that the screen must be cleaned up occasionally to remove the trapped soot particles, it is obvious to one with ordinary skill that the screen is positioned such that the exhaust gas during a high load engine condition is hot enough to heat the screen to a temperature sufficient to burn the captured particles.

With regard to the limitation of said screen being affixed to the intake pipe by interference fit, a product by process claim which is rejected over a prior art product that appears to be identical, although produced by a different process, the burden is upon the applicants to come forward with evidence establishing an unobvious difference between the two. See *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983).

Re claim 23, as shown in Figures 1-5, Lewis disclose an afterburner for an internal combustion engine of a motor vehicle, the afterburner comprising a screen (18) without a catalyst affixed to an intake pipe (17) located upstream of an exhaust gas recirculation valve (10).

Lewis, however, fails to disclose that the screen captures and burns particles contained in an exhaust gas stream which are a size large enough to obstruct the exhaust gas recirculation valve; that the exhaust gas stream continuously heats the screen to a temperature sufficient to burn the particles while the exhaust gas stream is at least 900°F; and that the screen is affixed to the intake pipe by interference fit.

Since Lewis places the screen at a location adjacent to the exhaust gas manifold, constructs the screen from high temperature material such as stainless steel and ceramic, and fails to mention that the screen must be cleaned up occasionally to remove the trapped soot particles, it is obvious to one with ordinary skill that the screen is positioned such that the exhaust gas during a high load engine condition is hot enough to heat the screen to a temperature sufficient to burn the captured particles which are a size large enough to obstruct the exhaust gas recirculation valve.

Since a temperature of at least 900°F is a generally accepted value for spontaneous combustion of soot trapped within a filter having an oxidation catalyst built within such as the one used in Lewis, it is obvious to one with ordinary in the art that the particles are burned within the screen at a temperature of at least 900°F.

With regard to the limitation of said screen being affixed to the intake pipe by interference fit, a product by process claim which is rejected over a prior art product that appears to be identical, although produced by a different process, the burden is upon the applicants to come forward with evidence establishing an unobvious difference between the two. See *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983).

Re claims 2, 16, and 24, in the valve system and afterburner of Lewis, the screen (18) is thimble-shaped.

Re claims 9, 10, 19, 20, 30, and 31, in the valve system and the afterburner of Lewis, the screen (18) is made from a stainless steel with a high thermal conductivity (lines 51-53 of column 3).

4. Claims 3-5 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis as applied to claims 1 and 23, respectively, above, in view of legal precedent.

The afterburner of Lewis discloses the invention as cited above, however, fails to disclose that the screen has a mesh size of about 12 to 20, wherein the screen has a minimum size of 5 mesh, and a maximum size of 40 mesh.

Lewis discloses the claimed invention except for specifying an optimum range of mesh size for the screen. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a specific optimum range of mesh size for the screen, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

5. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lewis as applied to claim 11 above, in view of official notice.

The valve system of Lewis discloses the invention as cited above, however, fails to disclose that the exhaust gas recirculation valve is at least one of an integral backpressure type valve, a ported type valve, an electronic type valve, and a transducer type valve.

It is well known to those with ordinary skill in the art that the EGR valve utilized by Lewis is at least one of an integral backpressure type valve, a ported type valve, an electronic type valve, and a transducer type valve. Therefore, such disclosure by Lewis is notoriously well known in the art so as to be proper for official notice.

Allowable Subject Matter

6. Claims 34-35 are allowed.

Claim 33 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Communication

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (571) 272-4862.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tu M. Nguyen

TMN

February 16, 2006

Tu M. Nguyen
Primary Examiner
Art Unit 3748